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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/549,806 | 06/29/2006 | David Horton | P08752US00/RFH | 7881 |
| 881 | 7590 | 06/16/2008 | | EXAMINER |
| STITES & HARBISON PLLC 1199 NORTH FAIRFAX STREET SUITE 900 ALEXANDRIA, VA 22314 | | | PRICE, CRAIG JAMES | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3753 | |
| | | | | |
| | | | MAIL DATE | DELIVERY MODE |
| | | | 06/16/2008 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|--------------------------------------|--------------------------------------|
| Office Action Summary | Application No. 10/549,806 | Applicant(s) HORTON ET AL. |
| | Examiner Craig Price | Art Unit 3753 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 02 May 2008.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 6-20 is/are pending in the application.

4a) Of the above claim(s) 1-5 and 21-25 is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 6-20 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1448)
 Paper No(s)/Mail Date 6/29/2006, 8/24/2007

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____

5) Notice of Informal Patent Application

6) Other: _____

Election/Restrictions

1. Applicant's election with traverse of Group II in the reply filed on 2 May 2008 is acknowledged. The traversal is on the ground(s) that the examiner has not shown that a separate field of search would be required. This is not found persuasive because the non-elected species require a search for devices which are opened by pressure alone and opened by a predetermined force. These limitations require a different/divergent search. The examiner would point out that the common technical feature is the slit valve not the "mixing apparatus" which was mistakenly placed in the previous paper.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-5 and 21-25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 2 May 2008.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 20 recites the limitation "the flexible sleeve comprises a sleeve which is extendable...", the limitation "a sleeve" is unclear as to whether or not the flexible sleeve in the depending claim requires an additional sleeve or if this limitation is the same sleeve. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 6-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Le Clair (2,595,211).

Le Clair discloses a mounting member being adapted to provide for mounting of the valve, and a valve element (Figure 12) connected to the mounting and being of a conical (139) or frusto-conical shape having its reduced diameter portion directed in a forward flow direction, the valve element including a collapsible aperture (140) located at or adjacent the reduced diameter portion and which in an open condition allows for flow of a fluid in the forward direction through the valve whilst in a closed condition the collapsible aperture prevents flow of the fluid in a reverse direction, the valve element being connected to the mounting member via an isolation zone defined by an annular recess (136) of the valve which is configured to reduce the likelihood of the collapsible aperture opening under application of external operational forces to the mounting member.

Regarding claim 7, Le Clair discloses that the collapsible aperture is arranged to open under fluid pressure alone. Since the valve is constructed as a slit type valve the valve is configured to open under fluid pressure alone, depending on the amount of pressure applied and the material and design configuration of the valve.

Regarding claim 8, Le Clair discloses that the collapsible aperture is arranged to receive an injector (Col. 3, Lns. 47-59).

Regarding claim 9, Le Clair discloses that the valve element is at least in part formed from a resilient material (Col.13, Lns. 13-17).

Regarding claim 10, Le Clair discloses that the isolation zone is more flexible than the valve element, as shown by the reduction in cross section of the zones versus the valve element.

Regarding claim 11, Le Clair discloses that the annular recess is defined or formed by a reduction in the cross-sectional area of the valve as shown in Figure 12.

Regarding claim 12, Le Clair discloses that the isolation zone comprises a narrowed neck portion of the valve which joins the mounting member (142) and the valve element.

Regarding claim 13, Le Clair discloses that the cross-sectional area of the valve at the isolation zone is approximately 30 to 80% of the maximum cross-sectional area of the valve element as shown in Figure 12.

Regarding claim 14, Le Clair discloses that the isolation zone is one of two or more isolation zones as shown in Figure 12.

Regarding claims 15 and 16, Le Clair discloses another mounting member (the surface opposite of 142 which contacts the smaller bore shown in Figure 12), the other mounting member being connected to the mounting member via one or more of the isolation zones or additional isolation zones which allow the mounting member and other mounting member to move substantially independently of each other, wherein the

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mounting member and other mounting member are connected to, or arranged for connection to, a mounting surface (the surface of 93).

Regarding claims 17 and 18, Le Clair discloses that one of the mounting surfaces (142) is connected to or forms part of a first vessel (the vessel around 102), and wherein another of the mounting surfaces (the surface opposite of 142 which contacts the smaller bore shown in Figure 12) is connected to or forms part of a second vessel (the area surrounding 140).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6,15,19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson (2,295,804) in view of Le Clair '211.

Regarding claim 6, Olson discloses a mounting member (13), and a valve element (18,21) being of a conical shape as shown in Figure 2, having its reduced

diameter portion (21) directed in a forward flow direction, the valve element including a collapsible aperture (22a) located at or adjacent the reduced diameter portion and which in an open condition allows for flow of a fluid in the forward direction through the valve whilst in a closed condition the collapsible aperture prevents flow of the fluid in a reverse direction, the valve element being connected to the mounting member via an isolation zone defined by an annular recess (19) of the valve which is configured to reduce the likelihood of the collapsible aperture opening under application of external operational forces to the mounting member.

Regarding claims 19 and 20, as best understood, Olson discloses a valve for an inflatable article which teaches the use of a flexible sleeve (12, Col. 2, Lns. 6-9, "The valve casing ...is constructed of a soft pliable elastic material...") that surrounds at least in part the isolation zone of the valve element, and wherein the flexible sleeve comprises "a sleeve" which is extendable and contractile in an axial direction, as shown in Figure 1.

Olson is silent to having a valve with another mounting member, the other mounting member being connected to the mounting member via one or more of the isolation zones or additional isolation zones which allow the mounting member and other mounting member to move substantially independently of each other.

Le Clair discloses another mounting member (the surface opposite of 142 which contacts the smaller bore shown in Figure 12), the other mounting member being connected to the mounting member via one or more of the isolation zones or additional

isolation zones which allow the mounting member and other mounting member to move substantially independently of each other.

It would have been obvious to one of ordinary skill in the art at the time of invention to substitute the valve of Le Clair with the valve of Olson to have a valve with another mounting member, the other mounting member being connected to the mounting member via one or more of the isolation zones or additional isolation zones which allow the mounting member and other mounting member to move substantially independently of each other, since one would have expected the device to perform as equally as well.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig Price whose telephone number is (571)272-2712. The examiner can normally be reached on 7AM - 5:30PM Mon-Thurs, Increased flex time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Huson can be reached on (571) 272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CP

11 June 2008

/John Rivell/
Primary Examiner, Art Unit 3753

/C. P./
Examiner, Art Unit 3753